

ANNUAL DRINKING WATER QUALITY REPORT for 2009

**CITY OF WATERTOWN WATER DEPARTMENT
245 Washington Street Suite 202, Watertown, New York 13601
April 2010**

PUBLIC WATER SUPPLY I.D. #2202346

INTRODUCTION

To comply with State and Federal regulations, the **City of Watertown Water Department** annually issues a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State and Federal drinking water health standards. We are proud to report that our system has not violated a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State and Federal standards.

If you have any questions about this report or concerning your drinking water, please contact **Gary E. Pilon, Superintendent of Water, at (315) 785-7757**. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled City Council meetings. Significant items of agenda are normally printed in the Watertown Daily Times a few days prior to the meeting. The meetings are on the first and third Mondays of the month at 7:00 pm in the City Council chambers located on the third floor of City Hall, 245 Washington Street, Watertown, New York. Notices of Public Hearings are always printed in the newspaper prior to the meeting under "Legal Notices" in the classified section.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our water source is the Black River, a surface water source, which originates in the Adirondack Mountains and runs through the center of the City and westerly to Black River Bay. During 2009, our system did not experience any restriction of our water source. Flows in the Black River are regulated by the Hudson-Black River Regulating District and are controlled by a series of hydro-electric power dams stretching from its headwaters in the Adirondacks to its mouth in Lake Ontario. If the City of Watertown's 15 million gallon per day Water Treatment Plant were running at full capacity, it would need only 2.3% of the minimum flow of the Black River. The water is treated within modern facilities prior to distribution. The water filtration building and main pumping station were reconstructed in 1987-1991. Liquid Alum and a nonionic polymer are added to the water to coagulate and settle out dirt and organic matter through a dosing station upstream of the water plant. The settled water is then pumped to the process complex at 1707 Huntington Street. Polyaluminum chloride and nonionic or cationic polymer are added prior to filtering. Carbon may be added to combat taste and odor. The filtered water is disinfected with chlorine to kill bacteria, viruses, and other microorganisms. The water is then treated with sodium silicate for corrosion control and with fluoride to help fight tooth decay. The finished potable water, is pumped to the City's distribution system and through the Development Authority of the North Country's line to the Towns of Champion, LeRay, and Pamela.

Additional information is available from the EPA's SAFE DRINKING WATER HOTLINE (800-426-4791)

NYSDOH SOURCE WATER ASSESSMENT PROGRAM FINDINGS

The NYSDOH has evaluated this PWS's (public water supply's) susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

Overall, this water supply is most susceptible to microbial contaminants, primarily from pasture and permitted discharges within the watershed. Sediment and turbidity associated with mining operations is also a concern, and transportation routes also have a potential to contribute various contaminants. A copy of the assessment can be obtained by contacting the supplier of water.

FACTS AND FIGURES

Our water system serves residents, businesses, and industry in and adjacent to the City, as well as Water Districts in the Town of Watertown, the Lettiere Tract, and the Watertown Correctional Facility. City water is also supplied to the Development Authority of the North Country water line serving the Towns of Champion, LeRay, and Pamela. The latest census figures set the City of Watertown's population at 26,705. Approximately 23,000 additional consumers reside or work in the Towns of Watertown, Champion, Leray, and Pamela. There are approximately 8,250 service connections inside the City of Watertown.

The total plant output for 2009 was 1,545,393,500 gallons; the daily average was 4,233,955 gallons; the highest single day was 7,044,000 gallons. The amount of water delivered to customers was 1,223,178,371 gallons. The remaining 322,215,129 gallons, or approximately 20.9 percent of the water produced, can be attributed to leaks, fires, annual flushing of water mains and hydrants, flushing and disinfection of newly constructed or repaired water mains, process water used at the Water Plant, and a few un-metered municipal accounts.

The **annual cost** of water for an inside residential user of 30 units (22,440 gallons) per quarter (every three months), is \$373.08, an average of \$4.16 per K Gallon (thousand gallons). The **minimum billing** for residential users inside the City, except for customers with an elderly exemption, is \$33.25, which is based on 9 units (6,732 gallons) quarterly. This equates to \$133.00 annually and averages \$4.94 per K gallon.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, the City of Watertown routinely monitors and tests your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, List 1 and 2 of the Unregulated Contaminant Monitoring Rule, Giardia & Cryptosporidium, Gross Alpha, Radium 226 and 228 and synthetic organic compounds. None of the 480 samples tested in 2009 contained detectable levels of coliform bacteria. In 2009 the water was tested for 52 principal organic chemicals (POC's), vinyl chloride and MTBE: synthetic organic chemicals (SOC's) and inorganic chemicals (IOC's). The table presented on the next page depicts compounds, which were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, is more than one year old.

It should be noted that all drinking water, including bottled drinking water, might reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the New York State Health Department District Office at (315) 785-2277.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measure	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
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Microbiological Contaminants

¹ Turbidity Distribution	NO	1,7/09	0.58 (0.18-0.58)	NTU	N/A	TT=<5NTU	Particles from corrosion of water mains
^{1a} Turbidity Composite Filter Effluent	NO	7/09	0.19 (0.04-0.19)	NTU	N/A	TT=95% of samples<0.3 NTU	Particles introduced during the treatment process or too fine to filter completely

Inorganic Contaminants

Copper	NO	2007	² 0.09 (.011-0.39)	mg/l (ppm)	1.3	AL-1.3	Corrosion of household plumbing
Lead	NO	2007	³ 3 (ND-11)	ug/l (ppb)	15	AL-15	Corrosion of household plumbing
Barium	NO	7/02	0.27	mg/l ppm	2	MCL-2	Erosion of natural products
Nitrate	NO	7/09	0.24	mg/l ppm	10	MCL-10	Run off from fertilizer, Erosion of natural deposits
Chloride	NO	7/08	16	mg/l ppm	NA	MCL-250	Indicative of road salt infiltration or naturally occurring
Fluoride	NO	2009	1.1 0.8-1.3	mg/l ppm	2.2	MCL-2.2	Natural and added for prevention tooth decay
Manganese	NO	8/08	0.10	mg/l ppm	NA	MCL-300	Naturally occurring
Sulfate	NO	7/08	23	mg/l ppm	NA	MCL-250	Naturally occurring
Arsenic	NO	7/07	<0.001	mg/l ppm	NA	MCL-0.05	Naturally occurring
Sodium	NO	8/08	14	mg/L ppm	NA	20mg/L	Naturally occurring

Additional information is available from the EPA's SAFE DRINKING WATER HOTLINE (800-426-4791)

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Radiological

Combined radium-226 and radium-228	NO	3,6,9,12 2008	0.2	pCi/L	NA	5 pCi/L	Erosion of natural deposits
Gross Alpha	NO	3,6,9,12 2008	5.61	pCi/L	NA	15 pCi/L	Erosion of natural deposits

Disinfection Byproducts

Total Organic Carbon Stage 1 Rule	NO	01-12 2009	1.7-2.8	mg/l ppm	NA	TT	Naturally present in the environment
Total Trihalomethanes Stage 1 Rule	NO	02, 05, 08, 11, 2009	⁴ 64 18-117	ug/l ppb	NA	MCL=80	Byproduct of drinking water chlorination
Total Trihalomethanes Stage 2 Rule	NO	02,04, 06,08, 10,12 07	11-107	ug/l ppb	NA	NA	Byproduct of drinking water chlorination
Haloacetic Acids	NO	02, 05, 08, 11, 2009	⁵ 54 1.2-114	ug/l ppb	NA	MCL=60	Byproduct of drinking water chlorination
Haloacetic Acids Stage 2 Rule	NO	02,04, 06,08, 10,12 07	18-98	ug/l ppb	NA	NA	Byproduct of drinking water chlorination

NOTES:

The City of Watertown is currently required to sample 30 homes every three years for lead and copper levels. The latest round of sampling took place during the summer of 2007. Action levels are not exceeded as long as 90% of the samples tested contain less than 15 ppb for lead and 1.3 ppm for copper. The next scheduled round of sampling for Lead and Copper will be in 2010.

Table Notes:

1 - Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest average distribution turbidity measurement for the year was 0.58 and occurred in January and July 2009. State regulations require that the monthly average turbidity must always be below 5 NTU.

1a - The regulations require that 95% of the combined filter effluent turbidity levels recorded have measurements below 0.3 NTU. The maximum combined filter effluent recorded at the plant in 2009 was 0.19 NTU and occurred in July 2009. 100% of the combined filter effluent turbidities were below the MCL.

2 - The level presented represents the 90th percentile of the 30 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 30 samples were collected at your water system and the 90th percentile value was the fourth highest value (0.22). The action level for copper was not exceeded at any of the sites tested.

3 - The level presented represents the 90th percentile of the 30 samples collected. The action level for lead was not exceeded at the 30 sites tested.

4 - This level represents the highest annual quarterly average calculated from data collected.

5 - This level represents the highest annual quarterly average calculated from data collected.

DEFINITIONS:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below, which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below, which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements.

Lead: It should be noted that the action level for lead **was not exceeded in any of the samples collected**. However, we are still required to present the following information on lead in drinking water:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels in your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. The City of Watertown Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

We are extremely proud to inform you that our water meets or exceeds ALL applicable State and Federal drinking water standards. During 2009 our system was in compliance with ALL New York State operating, monitoring, and reporting requirements.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

Additional information is available from the EPA's SAFE DRINKING WATER HOTLINE (800-426-4791)

INFORMATION ON FLUORIDE ADDITION

Our system is one of many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.3 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2009, monitoring showed fluoride levels in your water in the optimal range 100% of the time. None of the fluoride monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ♦ Saving water saves energy and some of the costs associated with both of these necessities of life;
- ♦ Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- ♦ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ♦ Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded.
- ♦ Turn off the tap when brushing your teeth.
- ♦ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- ♦ Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- ♦ Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes, if it moved, you have a leak.

SYSTEM IMPROVEMENTS

In 2009, city crews replaced and upgraded 435 l. f. of 4" water main on Arcade Street with 8" pipe, greatly increasing the fire flows in the immediate vicinity. City crews also installed 235 l. f. of 8" water main at Gaffney Drive to extend an existing main from Commerce Park Drive to accommodate proposed development in the area. A Disinfection Byproducts (DBP) Study, funded by a Shared Municipal Services Incentive Grant through the NYS Department of State, to comply with EPA's Stage II DBP Rule and to determine effective methods for minimizing development of DBPs.

In 2010, city crews will complete the installation of an additional 565 l. f. of the 8" water main on Commerce Park Drive. Repairs to the Dosing Station dam are slated for summer to minimize leakage of raw water into the settling basin. Completion of the Disinfection Byproducts Study is slated for June of 2010. We will continue to work with consulting engineers and private contractors on major capital construction projects, both public and private, including the installation of 2,054 l. f. of 8" and 12" water main on Breen Avenue. Replacement and upgrading of the 4" water main on Madison Avenue and installation of a new 8" water main in the 1200 block of Columbia Street are also proposed.

CLOSING

Thank you for allowing us to continue to provide you and your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.